Running Jupyter Notebook on ENGR Server

CS519
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1 Set SSH Tunnel to Run Jupyter on ENGR Server

If you want to use Jupyter notebook but don’t have it installed locally, you need to use SSH tunnel to access Jupyter service on the server. (So far, Jupyter notebook only works on flip1, and the administrator is working on other servers to fix the problems. Or you can use TA’s conda environment to launch Jupyter notebook on flip2 and flip3 as described in Section 2).

1.1 log in the ENGR server

On Unix and Mac machines, open a terminal and run the following command line to log in the server.

$ ssh <username>@access.engr.oregonstate.edu

To log in a specific server (e.g. flip1), use the command line:

$ ssh <username>@flip1.engr.oregonstate.edu

If you are already on a flip server (e.g. flip2) and you want to hop on flip1:

flip2 ~ 1000$ ssh flip1

Windows users can use PuTTY to access the server. Please check and follow steps in this link: [https://it.engineering.oregonstate.edu/accessing-unix-server-using-putty-ssh](https://it.engineering.oregonstate.edu/accessing-unix-server-using-putty-ssh)

1.2 launch Jupyter notebook on the server

Python2 on the server doesn’t work well when importing some packages, so we recommend Python3 when you work on the server. And you should specify python3 for Python3, the default python is Python2.

![Command line output]

To launch the Jupyter notebook with Python3, run the command line:

flip1 ~ 1000$ /usr/local/bin/jupyter notebook

Or use TA’s conda environment with Python3:

flip1 ~ 1000$ /nfs/stak/users/lisiz/miniconda3/bin/jupyter notebook
The server may open a new page:

```
Type q and y to quit this page.
```

Copy the highlighted URL and notice the port (four digits after localhost: in the URL). In this case, the port is 8891. The port number will be automatically assigned. Next use the specific port to build a SSH tunnel on your local machine.

### 1.3 build the SSH tunnel

On Unix or Mac machines, start up a local terminal and run:

```
$ ssh -N -L localhost:8891:localhost:8891 <username>@flip1.engr.oregonstate.edu
```

Replace the port (8891) in the command line when the server assigns a different port for the Jupyter notebook. You won’t get any feedback but you will be connected.

Windows users can use PuTTY to start the SSH tunnel. You can do it as follows and note that replace the port number (1234) with the correct one:
1.4 open the Jupyter notebook link

Open the browser and paste the URL generated after you launch the Jupyter notebook on the server:

If you can see the page like this following figure, you open the Jupyter notebook successfully!

1.5 close the Jupyter notebook and release the ports

Keep in mind that first use Control-C to stop the SSH tunnel you build in step 1.3, then use Control-C to stop the Jupyter service on the server and shut down all kernels (twice to skip
confirmation) otherwise the ports won’t be released successfully.

2 Use TA’s environment (optional)

If you find that the environment that comes with the server is not working well 😞, or you want to use a higher version of Python. You can choose to use the TA’s conda environment by `export` the path of TA’s environment into your own `PATH`:

```
flip3 ~ 994$ export PATH=/nfs/stak/users/lisz/miniconda3/bin:$PATH
```

Then your default command will use TA’s environment directly.

```
flip3 ~ 995$ which python
/nfs/stak/users/lisz/miniconda3/bin/python
flip3 ~ 996$ which jupyter
/nfs/stak/users/lisz/miniconda3/bin/jupyter
flip3 ~ 997$ python
Python 3.9.1 (default, Dec 11 2020, 14:32:07)
[GCC 7.3.0] :: Anaconda, Inc. on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> import numpy as np
>>> import pandas as pd
>>>